

MODELS

LSC & LSC From 500,001

LSC-1 (Holiday)

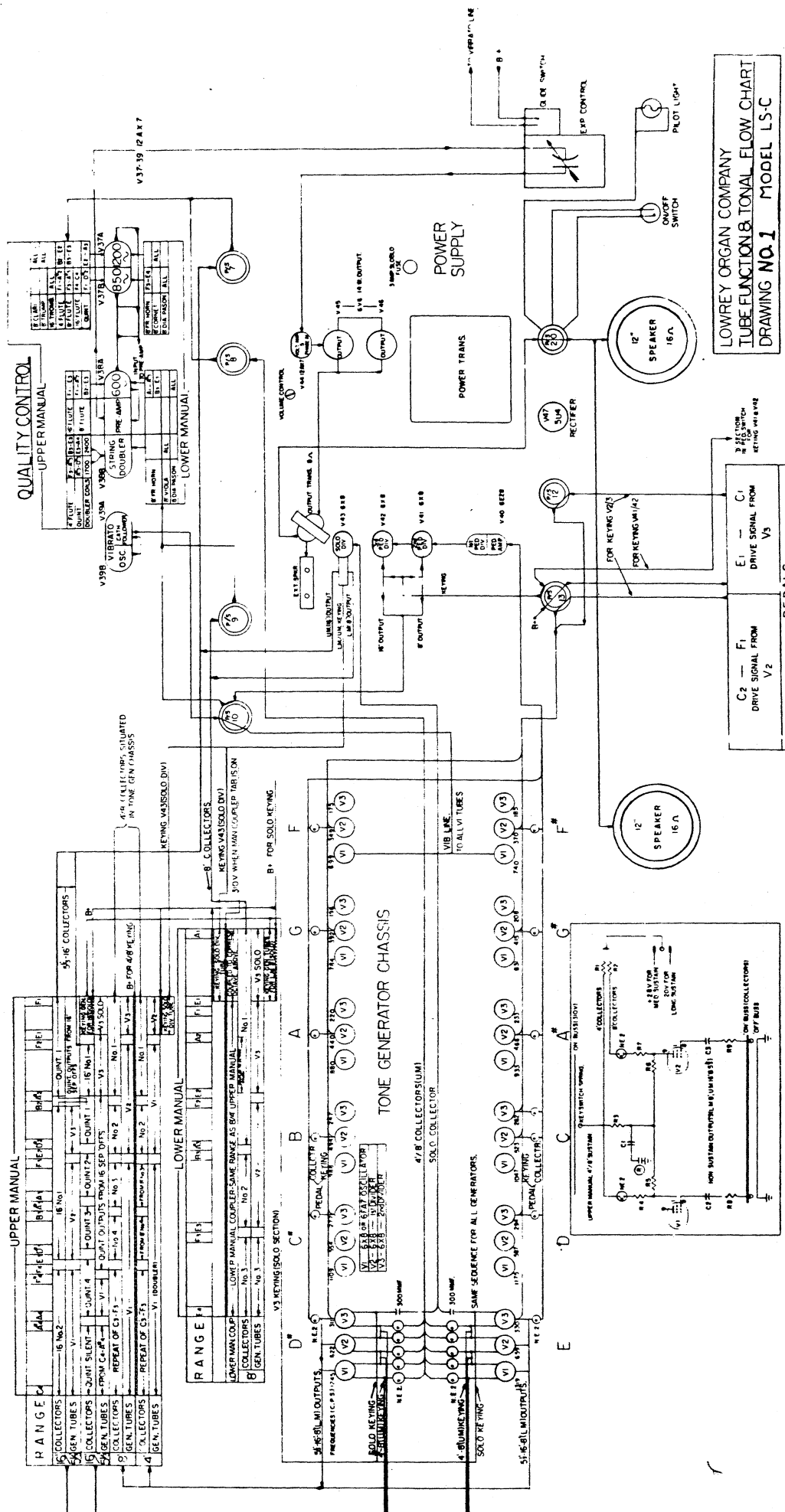
TABLE OF CONTENTS

SCHEMATICS	Page
Tube Function & Tonal Flow Chart LSC Dwg. 1	41
Tonal Flow & Tube Location Chart LSC-1 Dwgs. 1A & 1B	42-43
Tone Generator & Solo Divider Schematic LSC Dwgs. 2 & 2A	44-45
Keyswitch Wiring Diagram LSC & LSC-1 Dwgs. 3 & 3A	46-47
Quality Control Schematic LSC Dwg. 4	48
Quality Control Schematic Upper & Lower Manual LSC-1 Dwgs. 4A & 4B.	49-50
Amplifier/Power Supply Schematic LSC & LSC-1 Dwgs. 5 & 5A	51-52
Pedal Keyboard Schematic LSC & LSC-1 Dwgs. 6 & 6A	53-54
Chord & Pedal Schematic LSC Duo Dwg. 7	55

LOWREY ELECTRONICS SERVICE DEPT.

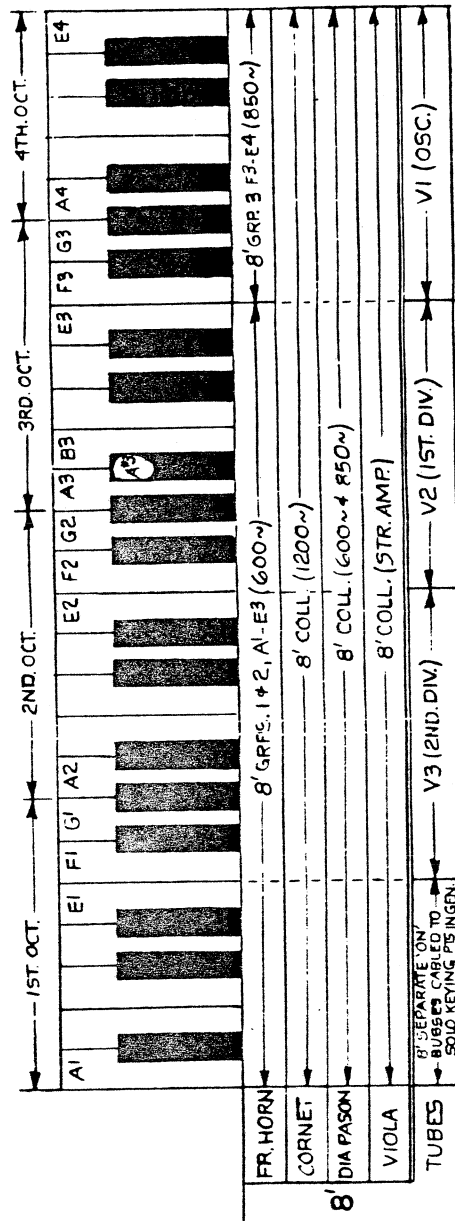
4400 W. 45th St.

Chicago, Illinois 60632



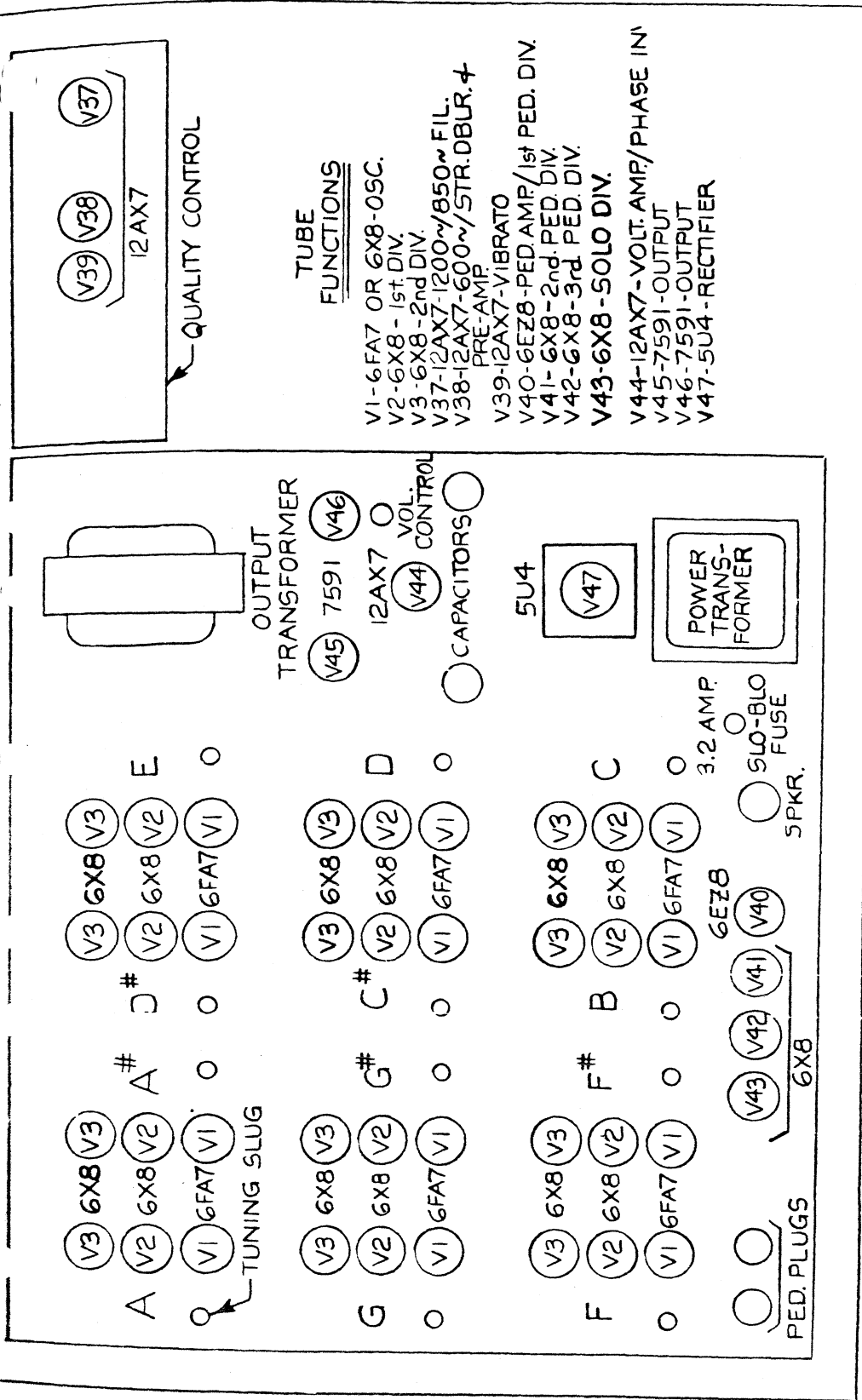


LOWER MANUAL



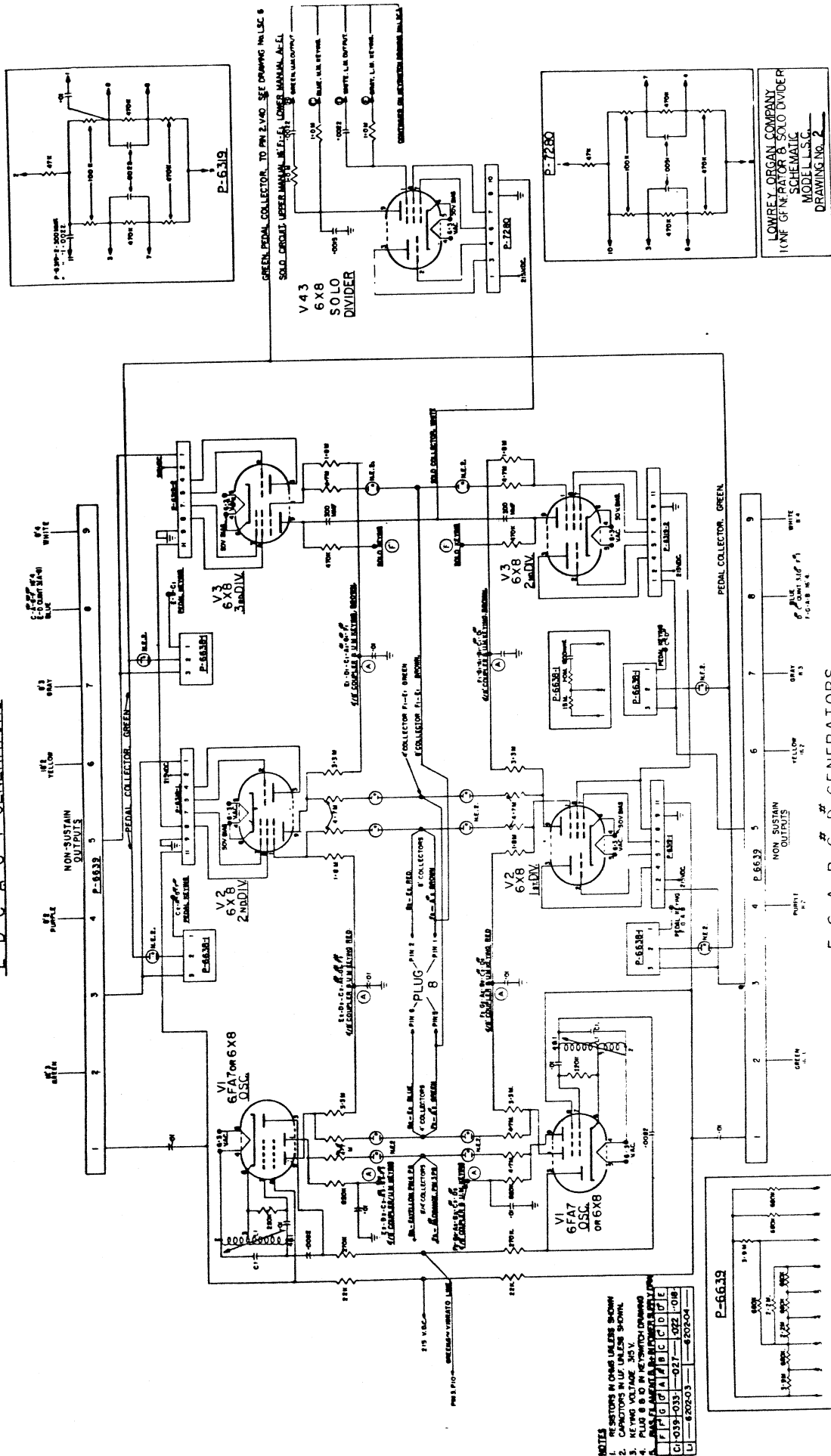
NOTE:
DEFINITIONS OF GRPS. & COLLECTORS ARE,
(A) GROUP - WIRE FOR COLLECTING A GROUP
OF NOTES.
(B) COLLECTOR - ALL GRPS. TIED TOGETHER.
(C) CONSTANT COLLECTOR - A 4' FREQUENCY
APPLIED TO AN 8' CELL.

LOWREY ORGAN CO.
TUNAL FLOW & TUBE LOCATION CHART
MODEL L.S.C. I
DWG. NO. 1A

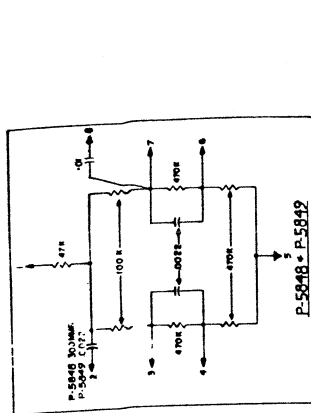


LOWREY ORGAN CO.
TONAL FLOW & TUBE LOCATION CHART
MODEL L.S.C.-1
DWG. N91B

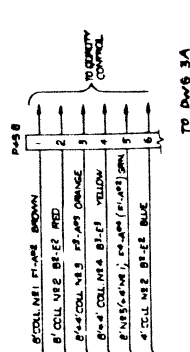
E-D-C-A-G-F-GENERATORS



F-G-A-B-C-D-GENERATORS



SEE PIN 2 OF DAI COLLECTOR. TO PIN 2, V40 SEE DRAWING No. LSC 6

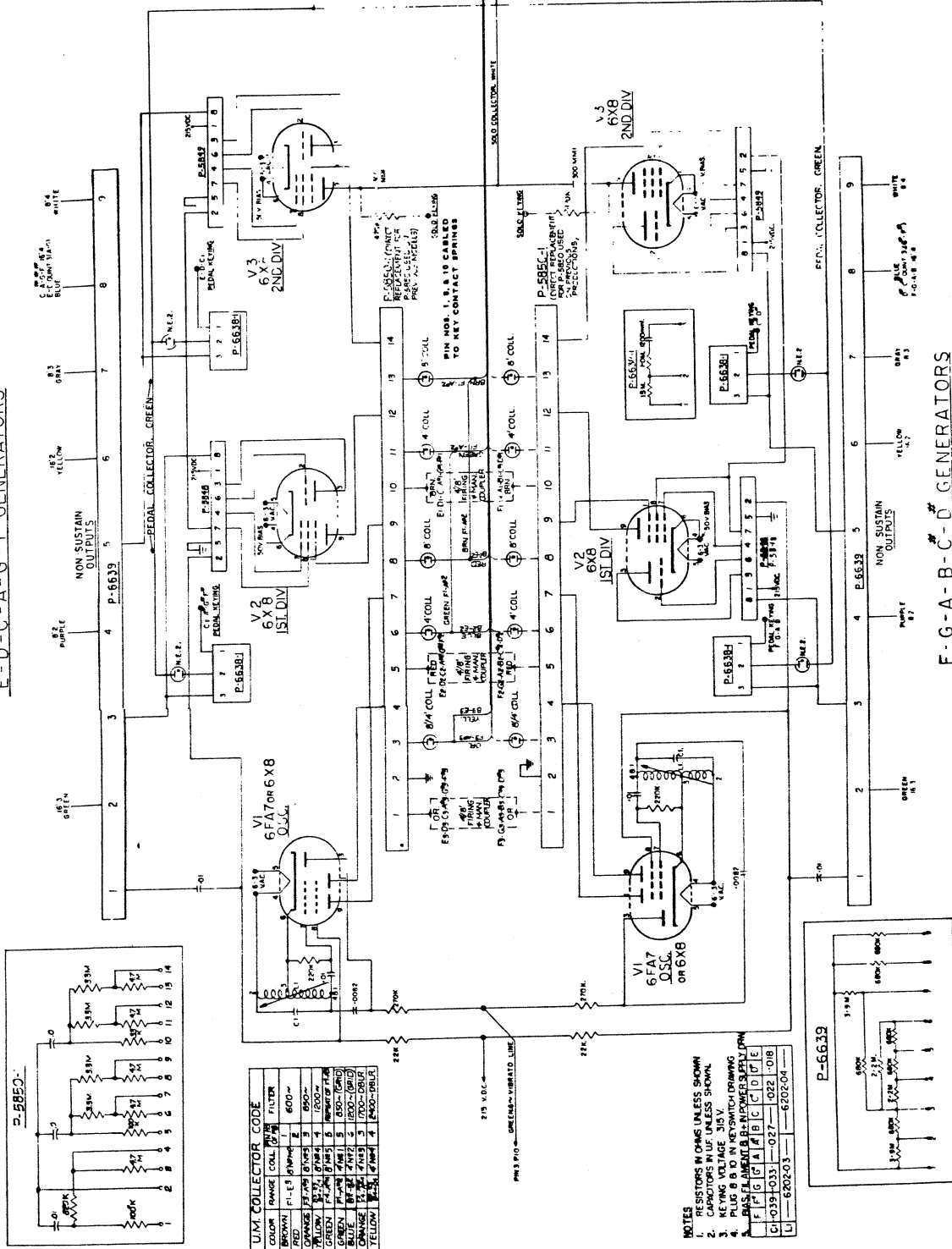


QUINT. GUIDE	
QUINT. KEY	CORRESPONDING GEN. OUTPUT
A ²	F
B	F ²
C	G
C ²	G ²
D	A
D ²	A ²
E	B
F	C
F ²	C ²
G	D
G ²	D ²
A	E

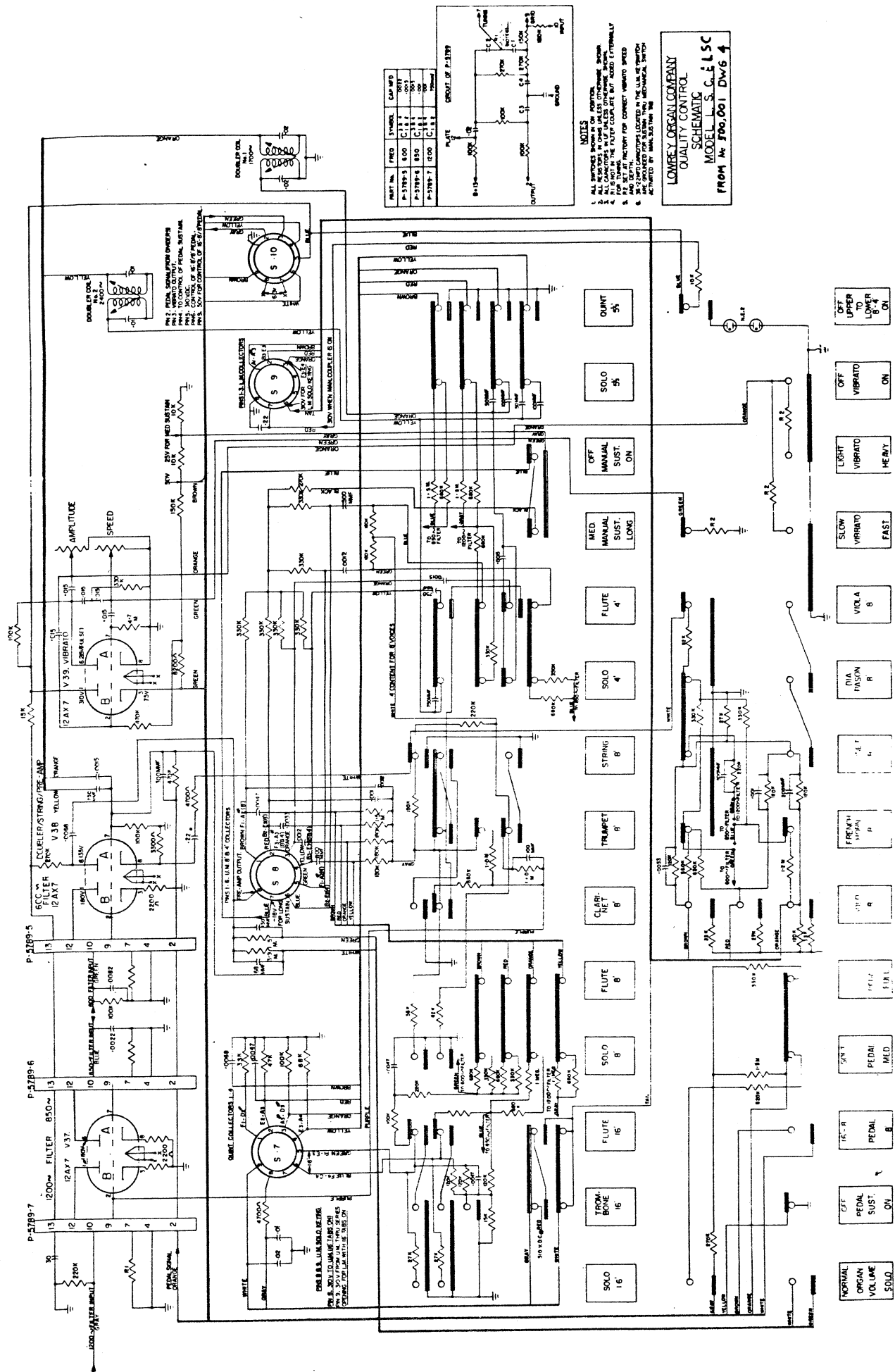
10" AND QUINT. COLLECTORS				
COLOR	RANGE	COLL.	PIN NO. OF ST	FILTER
BRN	F1-OH2	QUINT. NO. 1	1	880 ~
RED	ED -A-3	NO. 2	2	1200 ~
OR	A3-OH2	NO. 3	3	1700 ~
YELL	E3-A-5	NO. 4	4	2400 ~
GREEN	F1-A-5	10" NO. 1	5	500 ~
BLUE	B3-E-2	NO. 2	6	800 ~
VIOLET	F4-C-6	NO. 3	7	880 ~

LOWREY ORGAN COMPANY
PHONE GENERATOR & SOLO DIVIDER
SCHEMATIC
MODEL L.S.C.
DRAWING No. 2A

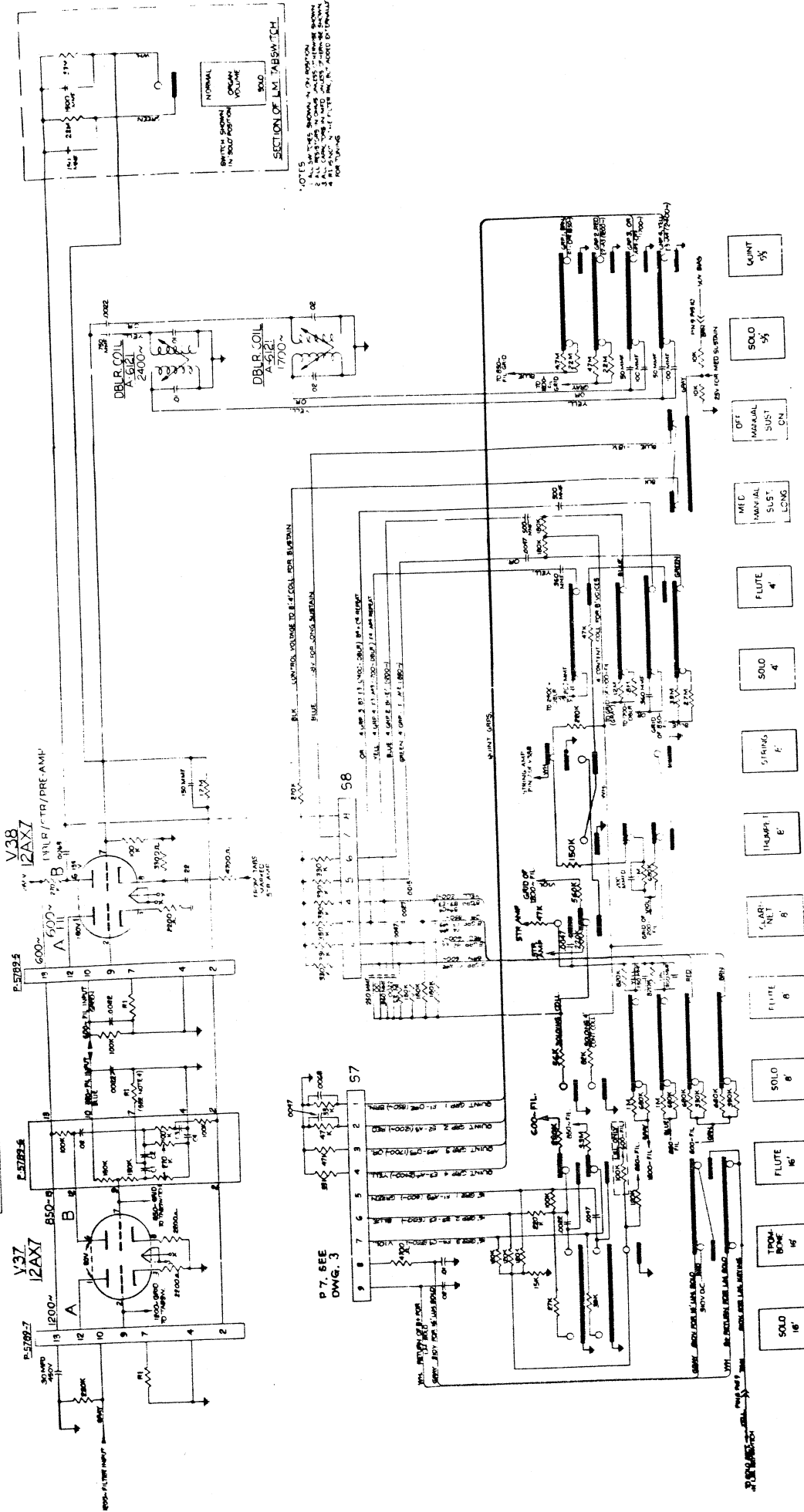
FROM SERIAL NO. 505,001



E-G-A-B-C-D GENERATORS



PART NO.	QTY.	REVISION	DATE
1000000000	1	1	10/1/50
1000000000	1	1	10/1/50
1000000000	1	1	10/1/50

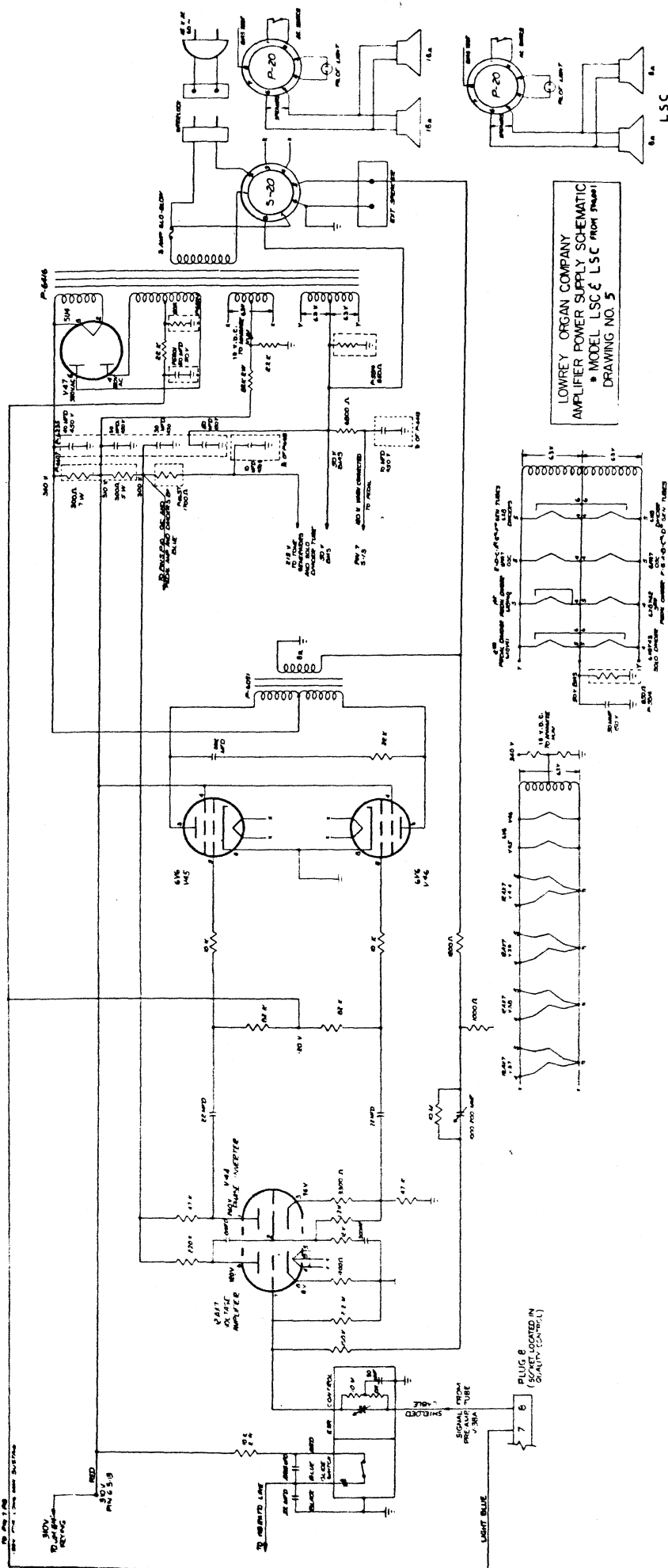


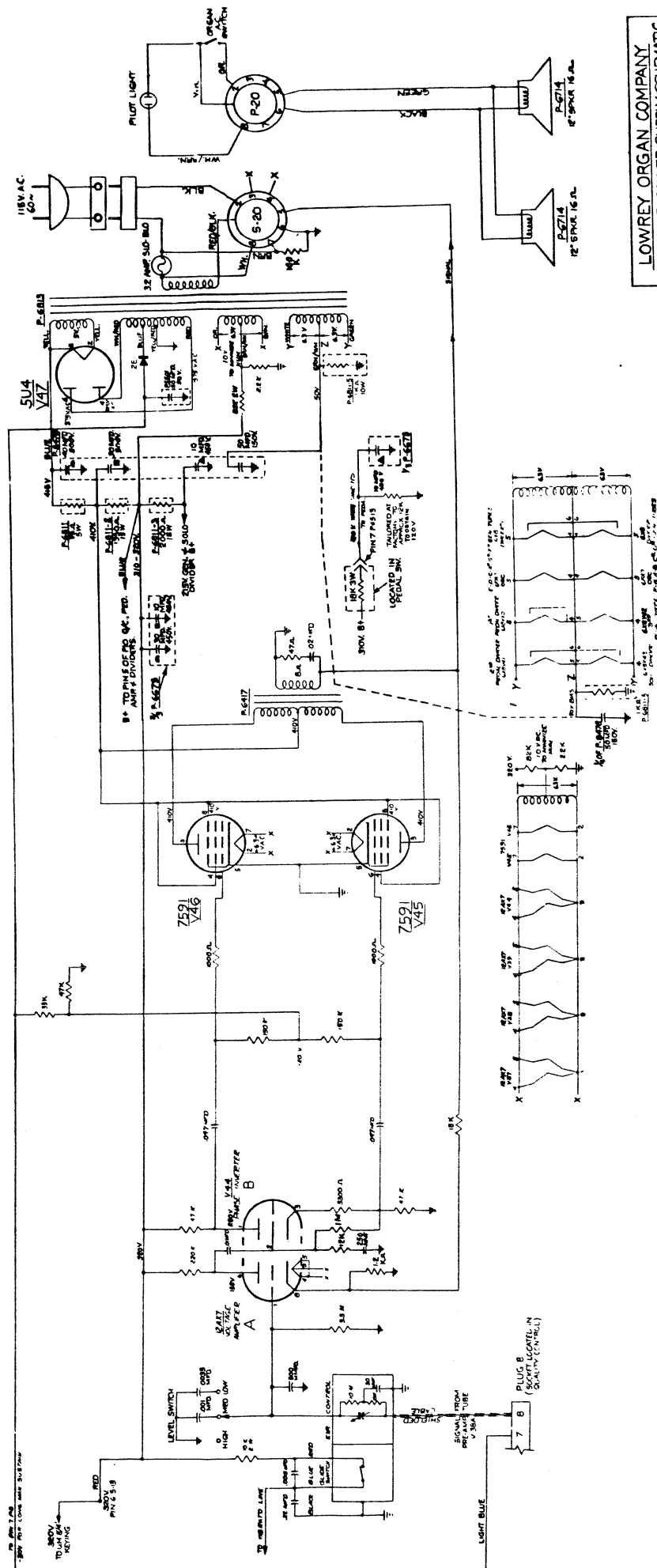
LOWREY ORGAN CO.
QUALITY CONTROL SCHEMATIC
PEDAL, L.M. VIBRATO & COUPLER CIRCUITS
MODEL LSC-1
DWG. N° 48

LOWER MANUAL TABSWITCH

NOTES:

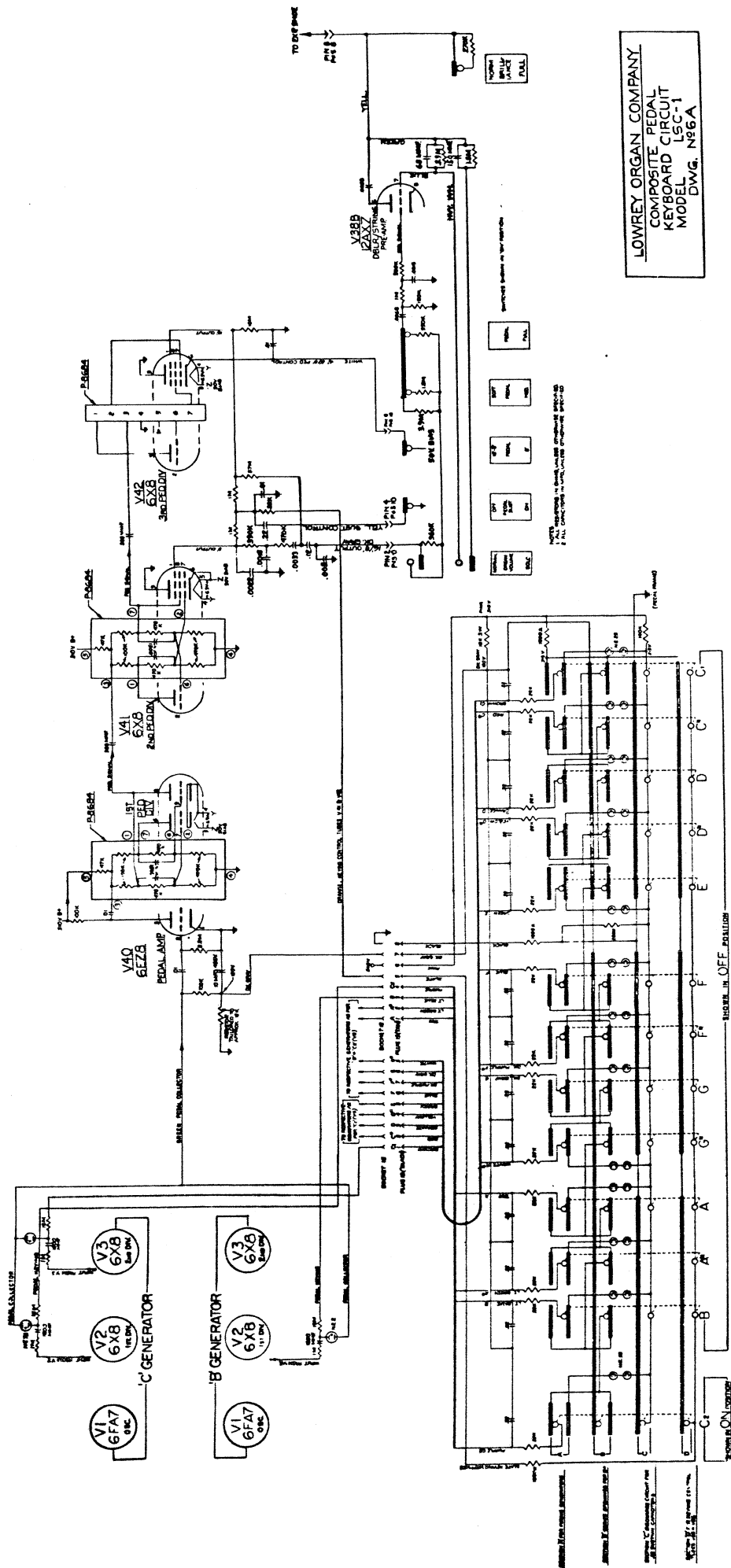
- 1 ALL SWITCHES SHOWN IN "ON" POSITION.
- 2 ALL HIGH PRESSURE LUBES, UNLESS OTHERWISE SHOWN.
- 3 ALL AIR MOTORS IN "WIND" UNLESS OTHERWISE SHOWN.
- 4 RE "H" AT FACTORY FOR CORRECT VIBRO SPEED & DEPTH.





LOWREY ORGAN COMPANY
AMPLIFIER-POWER SUPPLY SCHEMATIC
MODEL LSC-1
DWG. N8 5A





The sustaining feature on the pedals requires a special circuit to prevent more than one tone at a time from entering the collector. To understand this it is necessary to consider playing any two pedals in sequence.

On depressing the first pedal, its switch spring contacts the top "on" buss bar which carries the B+ firing voltage. This fires the corresponding neon lamp and also charges the .22 mfd capacitor associated with it. As the spring continues through its "on cycle", it shorts together the B+ "on" buss bar and the "on" buss below it, activating the relay coil through a voltage divider network on the pedal switch mechanism. Upon release of the pedal, the keying voltage to the neon lamp is removed and the relay coil is no longer energized. The spring returns to its off buss bar, but the charged .22 mfd capacitor keeps the neon keyed and signal continues to the collector.

The next pedal is then depressed, repeating the firing cycle and relay activation. The off buss bar of the previously played pedal switch is connected to a contact in the bottom deck of the relay. The relay activation caused by the second pedal switch grounds this off buss bar, immediately discharging its .22 mfd capacitor. The neon lamp is no longer fired and the drive signal no longer remains on the collector.

All 13 pedal switches have an off buss, each of which is connected to a contact in the bottom deck of the relay. In addition, one contact in the relay is a ground so that the activation of the relay by any pedal switch places a ground on all of the off buss bars, insuring that any previously charged .22 mfd capacitor is immediately discharged.

A single .22 mfd capacitor in the suppressor grid circuits of V 43 and V 44 controls pedal sustain. When charged, it continues keying voltage to these grids after release of any pedal. The pedal sustain tab switch controls this capacitor. In sustain "off" position, the switch disconnects the normally grounded side of the capacitor. Since it does not receive a charge, it cannot key V 43 and V 44 after release of a pedal. With the sustain tab "on", this switch provides the necessary ground to this capacitor so that it will take a charge and thus permit keying voltage to remain on 43 and V 44 after release of the pedal.

Another part of the pedal circuit is the 16'-8' control tab. In the 16'-8' position, the outputs of V 43 and V 44 are combined. In the 8' position, the switch removes the cathode of V 44 from the bias line and this 16' divider no longer functions, leaving only an 8' tone.

PEDAL KEYBOARD CIRCUIT - ISC

Although ISC differs from ISB in several major areas, nevertheless, the same general circuit principles are employed. It is therefore recommended that the foregoing ISB Pedal Circuit description be carefully read and understood.

ISC variations: 1. A single tube, type 6EZ8 (triple triode) is used for both amplifier and 1st divider.

2. In tone generators, a printed circuit couplet (P-6638-1) contains the keying and drive signal output components.

3. The pedal switch mechanism provides four sets of contacts for each pedal, eliminating need for the relay. A series opening keying circuit permits only one tone at a time to play, even though more than one pedal is depressed.

The schematic is drawn to correspond to the physical layout of the assembly, as viewed from the rear of the organ. For any pedal, the top switch section (A) keys the proper tone generator, to provide the drive signal. The next to the switch section (B) is the series opening circuit that eliminates B+ to the (A) switch of any note above one being played. The on buss of the (B) switch provides a discharge path for the sustain capacitor of a higher pedal, should one lower be played at the same time.

The (C) switch section provides the normal discharge path for a sustain capacitor when another pedal is played. Note the two series NE-23 neon lamps on all (A) section "off" buss bars. These return to a common point, the springs of (C) sections, which are all wired together. When any pedal is played, its .22 mfd sustain capacitor is charged and the generator neon lamp is keyed to provide a drive signal for this pedal. Upon release of the pedal, the charged capacitor keeps the neon on, to provide a sustained drive signal. The discharge path will be through the off buss bar circuit of the (A) switch. As another pedal is keyed, its (C) spring, contacting the grounded "on" buss, discharges, through the two NE-23 neons, the sustain capacitor of the previously played pedal.

The (D) switch section of any pedal keys the signal "read out" elements (suppressor grids) of the second and third pedal divider circuits (V 41 and V 42).

VIBRATO AND GLIDE CIRCUIT

The vibrato oscillator (V 40B in LSB, V 39B in LSC) provides an approximate 6 cycle pulse which produces the desired vibrato rate. The output of this oscillator is coupled to a cathode follower stage (V 41 in LSB, V 39A in LSC). The output of this cathode follower is applied to diodes (6X8 triode section is diode connected), or 6FA7, which is a diode - tubes are interchangeable in V 1) of all 12 of the V 1 tubes of the tone generator chassis. A .0082 mfd capacitor is connected between the diode plate and oscillator tank circuit of each of the 12 Master oscillators. The cathode is common to both the diode and the Master oscillator, and, therefore this capacitor is effectively shunted across the tank circuit, through the tube. On positive half cycles the diode conducts and the shunted capacitor affects the frequency of the oscillator. On negative half cycles, the diode does not conduct, effectively disconnecting the capacitor. Thus, this capacitor is taken in and out of the tank circuit at the rate produced by the vibrato oscillator.

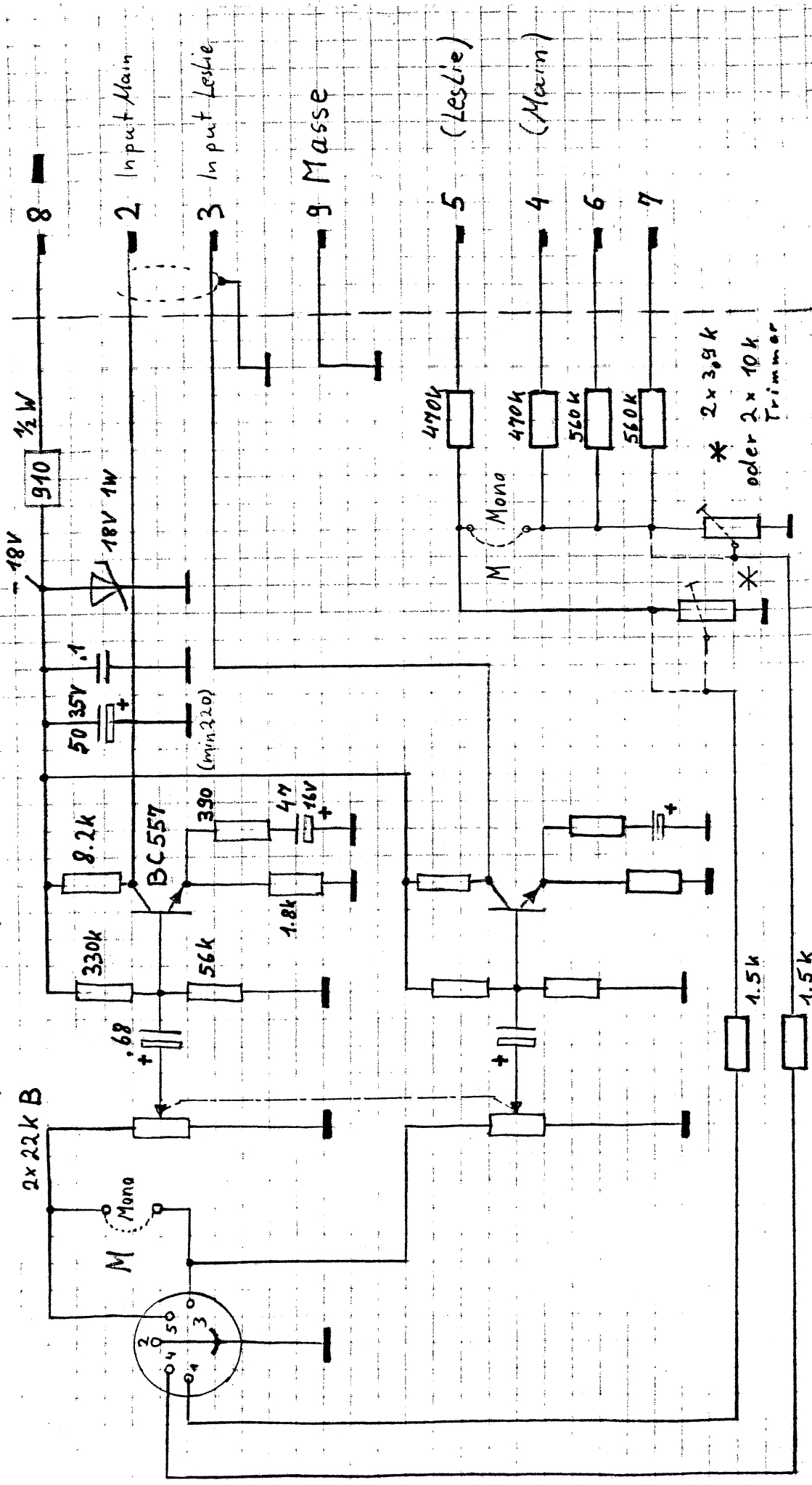
The vibrato is controlled by three tabs. With vibrato off, the "off-on" tab switch grounds out the output of the vibrato oscillator. In the "fast" position a resistor on the tab board is added to the vibrato oscillator feed back loop, increasing the speed. In the "light" position, a resistor is added between the oscillator output and ground, decreasing the intensity. A third resistor is added to reduce intensity when in the "Slow-Heavy" vibrato position.

The vibrato oscillator speed and depth are controlled by two screwdriver slotted potentiometers. These are located on the underside of the quality control chassis. If a slight change in speed or depth is desired, first pencil mark position of slots on chassis (so that vibrato can be returned to near original speed and depth if necessary) then adjust to desired degrees.

The glide switch (controlled by the lever on the left side of the swell pedal), when activated, puts B+ into the vibrato cathode follower circuit, eliminating the vibrato pulse, and provides sufficient DC to cause the V 1 diodes to conduct more heavily. This increases the effectiveness of the .0082 mfd capacitor in each of the master oscillators, lowering the pitch.

Tonbandanschluß (Mono oder Stereo) für Lowrey-Organen
 TG-88(-1); TG-98(-1); M-300; M-500; TGO(-1); TGS; D-300;

D-500; D-550; C-300; C-500



Die Monobrücken werden bei DIN-Anschlüssen nicht benötigt.

Bei zu geringer Verstärkung können die Gegenkopplungswiderstände (390) bis auf 220Ω erniedrigt werden.